

HY (F) 110 电液伺服阀

HY(F)110 electrohydraulic servo valve



动态特性图

Dynamic Characteristic Chart

标准频响动态性能实测

Measured Dynamic Performance of Standard Frequency Response

数据曲线 Data curve			
产品型号 Product model	HY110	产品名称 Product name	阀 Valve
产品编号 Product no.	083164	额定流量(L/min) Rated flow (L/min)	8
额定电流(mA) Rated current (mA)	40	额定压力(MPa) Rated pressure (MPa)	21
油液温度(°C) Oil temperature (°C)	40		
动态特性曲线 Dynamic Characteristic Curve			
项目名称 Item name	性能参数 Performance parameter	试验结论 Test conclusion	
频率 Hz(-3db) Frequency Hz (-3db)	100	(合格) (Qualified)	
频率 Hz(90°) Frequency Hz (90°)	120		
备注 Remarks			
试验人员 Tested by	试验员 1 Tester 1		

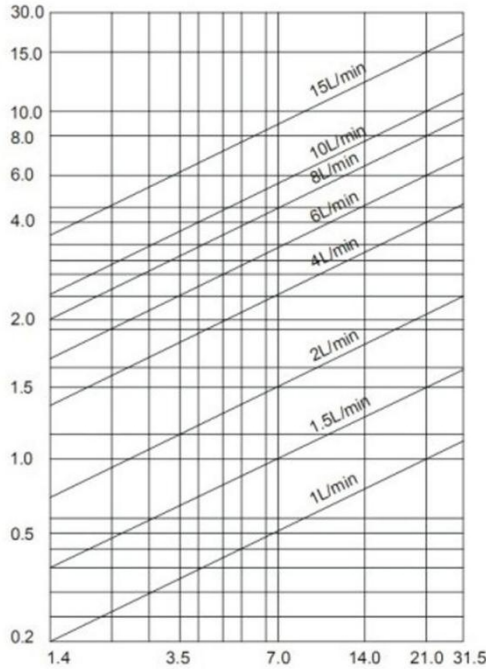
阀的负载流量图

Load Flow Diagram of Valve

阀口全开（100%给定指令信号）时阀的流量与阀压降的关系

Relationship between Valve Flow and Valve Pressure Drop with Fully-open Valve Port (100% Given Command Signal)

负载流量 (L/min)
Load flow (L/min)



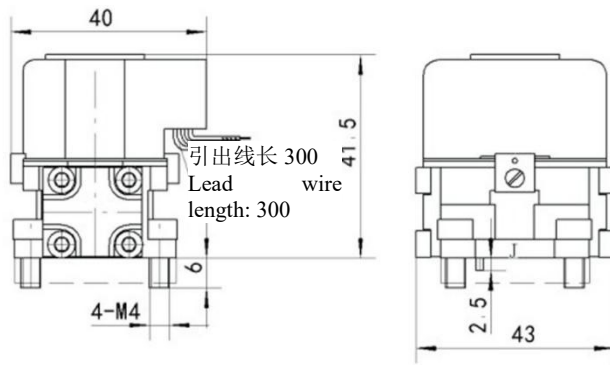
阀压降 ΔP (MPa)

Valve pressure drop ΔP (MPa)

Table of Connection Definitions of Electrical Connector 电连接器连接定义表	线圈连接方式 Coil connection mode	单线圈、串联、并联、差动 Single-coil, series connection, parallel connection and differential
	插座针号 Socket pin number	
	外引出导线颜色 Color of external lead wire	绿 红 黄 蓝 Green Red Yellow Blue
	控制电流的极性 Polarity of control current	单线圈：2+，1-或 4+，3-；串联线圈：1 与 4 相连，2+，3- Single coil: 2+, 1-, or 4+, 3-; Series coil: 1 and 4 connected, 2+, 3- 并联线圈：1 与 3、2 与 4 相连，(2,4) +，(1, 3) - Parallel coil: 1 and 3 connected, 2 and 4 connected, (2, 4) +, (1, 3) - 差动联接：当 1+时，1 到 2 < 1 到 3；当 1-时，2 到 1 > 3 到 1；用于串联时，2+，3- Differential connection: For 1+, 1 to 2 < 1 to 3; For 1-, 2 to 1 > 3 to 1; For series connection, 2+, 3-

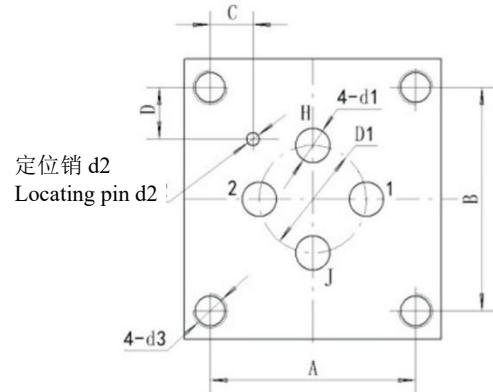
外形及安装尺寸图

Outline and Installation Dimension Drawing



油口连接面尺寸

Oil Port Connection Surface Dimensions



代号 Designation	D1	d1	d2	d3	A	B	C	D
N	12.5	Φ4	Φ1.5	M4	24	26	5	6

- 进油腔 J，回油腔 H，负载腔 1、2
Oil supply port J, oil return port H, load ports 1 & 2
- A、B、C、D、D1 理论值尺寸公差均为±0.1mm
Theoretical dimension tolerances of A, B, C, D and D1 are all ±0.1mm
- 定位销可根据用户需要选配
Locating pin is optional depending on user demand

电液伺服阀配件及附件清单

List of Parts and Accessories of Electrohydraulic Servo Valve

必要配件 Necessary parts						可选附件 Optional accessories			
型号 Model	J、H、1、2 口密封圈规格 (数量 4 件) Specification of sealing ring for ports J, H, 1 and 2 (quantity: 4 pieces)	先导级独立进油口密封圈规格 (数量 0 件) Specification of sealing ring for pilot-stage independent oil inlet (quantity: 0 piece)	电连接器插头 (数量 0 件) Electrical connector plug (quantity: 0 piece)	护板 (数量 1 件) Guard plate (quantity: 1 piece)	安装螺钉规格 Specification of mounting screw (数量 4 件) (quantity: 4 pieces)	冲洗板 Flushing plate	转接板 Adapter board	屏蔽线 Shielded wire	SVC 伺服阀控制器 SVC servo valve controller
HY110	Φ6x1	/	/	HY110-114 护板 HY110-114 guard plate	GB70 M4x10	●	●	●	●

技术参数

Technical Parameters

产品型号 Product model		HY110	
供油压力 Oil supply pressure		2-31.5	
额定流量 Qn (L/min) Rated flow Qn (L/min)	$\rho P_N=21\text{MPa}$	1、1.5、2、4、6、8、10、12、15	
	$\rho P_N=7\text{MPa}$	0.6、1、1.5、2.5、3.5、5、6、7、9	
额定流量容差 (%) Rated flow tolerance (%)		± 10	
额定电流 I _n (mA) Rated current I _n (mA)		10	40
线圈电阻 (Ω) Coil resistance (Ω)		700	80
滞环 (%) Hysteresis (%)		≤ 4	
分辨率 (%) Resolution (%)		≤ 1	
非线性度 (%) Nonlinearity (%)		≤ 7.5	
不对称度 (%) Asymmetry (%)		≤ 10	
零偏 (%) Zero bias (%)		$\leq \pm 2$	
重叠 (%) Lap (%)		$\leq \pm 2.5$	
内漏(L/min) Internal leakage (L/min)		$\leq 0.3\sim 1.05$	
压力增益 (%Ps/1%I _n) Pressure gain (%Ps/1%I _n)		> 30	
温度零漂 ($\rho T=40^\circ\text{C}$) (%) Temperature zero drift ($\rho T=40^\circ\text{C}$) (%)		$\leq \pm 2$	
供油压力零漂(80%~100%)P _N (%) Oil supply pressure zero drift (80%~100%)P _N (%)		$\leq \pm 2$	
回油压力零漂(0~20%)P _N (%) Return pressure zero drift (0~20%)P _N (%)		$\leq \pm 2$	
加速度零漂 $\Delta a=10g$ (%) Acceleration zero drift $\Delta a=10g$ (%)		$\leq \pm 2$	

频率特性 Frequency characteristic	幅频宽(-3dB)(Hz) Amplitude bandwidth (-3dB) (Hz)	≥80
	相频宽(-90°)(Hz) Phase bandwidth (-90°)(Hz)	≥80
温度范围(°C) Temperature range(°C)		-25~105
质量(Kg) Mass(kg)		≤0.20

测试油温 40±6°C；测试供油压力 21MPa

Oil temperature under test: 40±6°C; Oil supply pressure under test: 21MPa